WHAT IS CLAIMED IS:

1. A spherical semiconductor device comprising a spherical semiconductor lement, said element comprising:

one or more electrodes on a surface of said element; and

spherical conductive bumps formed at the positions of said electrodes.

2. A device according to claim 1, wherein said electrodes are so arranged as to contact a common plane.

3. A device according to claim 1, wherein said spherical bumps constituting a group to be connected to the outside, protrude above said spherical semiconductor element such that there is formed one of no gap and a predetermined gap between one of a plane and a spherical surface capable of contacting said group of spherical bumps, and the surface of said spherical semiconductor element.

4. A device according to claim 1, wherein said spherical bump is made of a refractory metal having a melting point of not less than 550℃.

5. A device according to claim 4, wherein said electrode is made of a material selected from the group consisting of aluminum, copper, and an alloy containing at least one of aluminum and copper, and said spherical bump is made of a mat rial selected from the group consisting of gold, platinum,

palladium, silver, copper, aluminum, nickel, and an alloy containing at least one of gold, platinum, palladium, silver, copper, aluminum, and nickel.

6. A device according to claim 1, wherein said spherical bump is made of a low-melting metal having a melting point of not more than 450℃.

7. A device according to claim 6, wherein said electrode is made of a material selected from the group consisting of aluminum, copper, and an alloy containing at least one of aluminum and copper, and said spherical bump is made of a material selected from the group consisting of lead, tin, indium, bismuth, zinc, an alloy containing at least one of lead, tin, indium, bismuth, and zinc, and an alloy mainly containing one of gold-silicon alloy, gold-tin alloy, and silver-tin alloy.

8. A device according to claim 6, wherein at least one metal layer selected from the group consisting of titanium, tungsten, titanium-tungsten, nickel, chromium, gold, palladium, copper, and platinum is formed on said electrode.

9. A device according to claim 1, wherein said electrode is connected through said spherical bump to an electrode of one of a ceramics substrate, a film carrier, a silicon substrate, a printed circuit board, a lead frame, a semiconductor chip, and a spherical semiconductor element.

10. A device according to claim 9, wherein said

spherical bump is made of a refractory metal and connected through a low-melting metal to an electrode of one of a ceramics substrate, a film carrier, a silicon substrate, a printed circuit board, a lead frame, a semiconductor chip, and a spherical semiconductor element, and the difference in melting point between said refractory metal and said low-melting metal is not less than 50℃.

11. A device according to claim 1, wherein said spherical semiconductor element is encapsulated with an encapsulating material.

12. A device according to claim 1, wherein said electrode has a shape selected from the group of a trapezoid, a polygon having at least five sides, and a circle.

13. A device according to claim 1, wherein said electrode has an area equivalent to the area of a circle having a diameter not less than 3% of a diameter of said spherical semiconductor element.

14. A device according to claim 1, wherein said spherical bump is made of a refractory metal coated with a low-melting metal.

15. A method for fabricating a spherical semiconductor device having spherical bumps on surface electrodes of a spherical semiconductor element, comprising the steps of:

temporarily arranging conductive balls for forming said spherical bumps, on an arrangement

substrate at positions respectiv ly corresponding to said surface electrodes; and

transferring said conductive balls onto said surface electrodes to join.

16. A method according to claim 15, wherein said conductive balls are transferred from said arrangement substrate to said surface electrodes while the position of each of said conductive balls on said arrangement substrate is regulated.

17. A method according to claim 15, wherein said conductive balls are transferred from said arrangement substrate to said surface electrodes such that a predetermined gap is formed between a surface of said arrangement substrate and a surface of said spherical semiconductor element.

18. A method according to claim 15, wherein said conductive balls are transferred onto and joined to said surface electrodes by thermo-compression bonding.

19. A method according to claim 15, wherein said conductive balls are transferred onto and joined to said surface electrodes by melting.

20. A method according to claim 19, wherein each of said conductive balls are transferred onto and joined to each of said surface electrodes after one of the surface electrode and conductive ball is coated with a flux.

21. A method according to claim 15, wherein conductive balls are arranged on said arrangement

substrate to correspond to electrodes of spherical semiconductor elements, and said conductive balls are transferred onto said spherical semiconductor elements at once from said arrangement substrate to form bumps.